Amendments to the Claims

1 (currently amended): A variable reluctance resolver ~~having a rotor which comprises~~ comprising:

a rotor and a stator wherein the rotor includes a noncircular core of magnetic material [[and]] which is rotatably supported inside [[a]] the stator with a gap therebetween, the shape of the rotor being such that the magnetic gap permeance ~~, which is based on the gap,~~ varies according to a sine function of the rotational angle,

said noncircular core including a central circular portion and a plurality of salient poles protruding on the periphery of the central circular portion,

wherein each salient pole of the rotor has a center which is offset by a prescribed offset distance in the radial direction from the center of the rotor, and the outer peripheral shape of each salient pole comprises [[by]] an arc of a circle of radius r which is centered on the center of the salient pole and which does not extend to the inner peripheral surface of the stator.

2 (original): A variable reluctance resolver as claimed in claim 1 wherein the shape of the rotor is defined in accordance with the rotational angle, which is expressed by the mechanical angle ϕ or the electrical angle θ corrected by the shaft angle multiplier, and the offset distance A such that the outer radius Rr of the rotor has a value given by the following equation:

$$Rr = A \cos \phi + \sqrt{r^2 - A^2 \sin^2 \phi} \quad = A \cos (\theta/N) + \sqrt{r^2 - A^2 \sin^2 (\theta/N)}$$

wherein r is the radius of each salient pole, A is the offset distance, ϕ is the mechanical angle (ϕ = electrical angle θ/shaft angle multiplier N), θ is the electrical angle, and N is the shaft angle multiplier.

3 (previously presented): A variable reluctance resolver as claimed in claim 1 wherein the shape of the rotor is defined in accordance with the rotational angle, which is expressed by the mechanical angle ϕ or the electrical angle θ corrected by the shaft angle multiplier, such that the gap δ between the stator and the rotor has a value given by the following equation:

$$\delta = R_s - A\cos\phi - \sqrt{r^2 - A^2\sin^2\phi} = R_s - A\cos(\theta/N) - \sqrt{r^2 - A^2\sin^2(\theta/N)}$$

wherein δ is the gap, R_s is the inner radius of the stator, A is the offset distance, ϕ is the mechanical angle (ϕ = electrical angle θ/shaft angle multiplier N), θ is the electrical angle, N is the shaft angle multiplier, and r is the radius of each salient pole.

4 (new): A variable reluctance resolver as claimed in claim 2 wherein the rotor includes as least four abutting salient poles protruding from and evenly spaced around the periphery of the central circular portion.

5 (new): A variable reluctance resolver as claimed in claim 3 wherein the rotor includes as least four abutting salient poles protruding from and evenly spaced around the periphery of the central circular portion.